

CLAIMS

1. A method for transmitting voice and data traffic in a wireless
2 communication system, comprising:

- 4 generating a first preamble channel, wherein the first preamble channel
4 carries information as to a preamble length;

- 6 generating a second preamble channel, wherein the second preamble
6 channel carries a plurality of preamble packets and the length of each of the
6 plurality of preamble packets is carried on the first preamble channel; and

- 8 generating a traffic channel, wherein the plurality of preamble packets
8 carried on the second preamble channel are each associated with a packet
10 carried on the traffic channel.

2. The method of Claim 1, wherein the information as to the preamble
2 length is carried by a two-bit payload.

3. The method of Claim 1, wherein the information as to the preamble
2 length is carried by a one-bit payload.

4. A method for generating a preamble that is not concatenated to a data
2 subpacket on a traffic channel, comprising:

- 4 generating a preamble for transmission on a first non-traffic channel;
4 and

generating a preamble length value for transmission on a second non-
 6 traffic channel, wherein the preamble length value is associated with the
 preamble transmitted on the first non-traffic channel.

5. The method of Claim 4, wherein the preamble length value is
 2 represented by two bits.

6. The method of Claim 4, wherein the preamble length value is
 2 represented by one bit.

7. An apparatus for generating a preamble information channel within a
 2 wireless communication system, wherein the preamble information channel
 informs a target station of a length of a preamble transmitted on a separate
 4 channel, comprising:

a block encoder configured to receive a symbol and to output a plurality
 6 of symbols;

a repetition element configured to receive the plurality of symbols from
 8 the block encoder and to output a sequence, wherein the sequence
 comprises a repeated pattern of the plurality of symbols;

10 a modulation element configured to receive the sequence and to output
 an in-phase component and a quadrature component; and

12 a Walsh covering element for spreading the in-phase component and
 the quadrature component.

8. The apparatus of Claim 7, wherein the symbol comprises two bits.

9. The apparatus of Claim 8, wherein the block encoder outputs three
2 code symbols for the two-bit symbol.
10. The apparatus of Claim 7, wherein the modulation element performs
2 quadrature phase-shift keying (QPSK) modulation.
11. The apparatus of Claim 7, wherein the Walsh covering element uses a
2 256-ary Walsh code.
12. An apparatus for generating a preamble information channel within a
2 wireless communication system, wherein the preamble information channel
informs a target station of a length of a preamble transmitted on a separate
4 channel, comprising:
 - a mapping element configured to receive one bit and to output +1, -1,
6 or 0 accordingly;
 - a repetition element configured to repeat the output of the mapping
8 element to form a sequence; and
 - a Walsh covering element for spreading the sequence.
13. An apparatus for generating a preamble for transmission on a channel
2 that does not carry traffic, comprising:
 - a convolutional encoder configured to convolve a preamble sequence;
 - 4 a repetition element configured to receive the convolved preamble
sequence and to output a repeated sequence;

- 6 a modulation element configured to modulate the repeated sequence;
and
8 a Walsh covering element for spreading the modulated sequence.

14. The apparatus of Claim 13, wherein the convolutional encoder is a tail-
2 biting convolutional encoder.

15. The apparatus of Claim 13, wherein the modulation element performs
2 quadrature phase shift-keying (QPSK) modulation.

16. The apparatus of Claim 13, wherein the Walsh covering element uses
2 a 128-ary Walsh code.

17. An apparatus for transmitting voice and data payloads in a wireless
2 communication system, comprising:

 means for generating a first preamble channel, wherein the first
4 preamble channel carries information as to a preamble length;

 means for generating a second preamble channel, wherein the second
6 preamble channel carries a plurality of preamble packets and the length of
each of the plurality of preamble packets is carried on the first preamble
8 channel; and

 means for generating a traffic channel, wherein the plurality of
10 preamble packets carried on the second preamble channel are each
associated with a packet carried on the traffic channel.

18. An apparatus for transmitting voice and data payloads in a wireless
2 communication system, comprising:
a memory element; and
4 a processing element coupled to the memory element and configured
to execute an instruction set stored in the memory element, the instructions
6 for:
generating a preamble for transmission on a first non-traffic
8 channel; and
generating a preamble length value for transmission on a
10 second non-traffic channel, wherein the preamble length value is
associated with the preamble transmitted on the first non-traffic
12 channel.